Minuteman Peptides, LLC

IGF-1 (57-70)

CAS: 123618-03-1
Formula: C71H119N17O19S

Document ID: 321a42aa
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Version: 1.0

Section 1 — Product and Company Identification

Product Name	IGF-1 (57-70)
Synonyms	Insulin-like growth factor I (57-70); 123618-03-1; Somatomedin C (57-70)
CAS Number	123618-03-1
Molecular Formula	C71H119N17O19S
IUPAC Name	(4S)-5-[[(2S)-1-[[(2S)-1-[[(2S)-6-amino-1-[[(2S)-1-[(2S)-2-[[(2S)-1-[[(2S)-6-amino-1-[(2S)-2-[[(2S)-1-[[(2S)-6-amino-1-[[(2S)-1-[[(1S)-1-carboxyethyl]amino]-3-hydroxy-1-oxopropan-2-yl]amino]-1-oxohexan-2-yl]amino]-1-oxopropan-2-yl]carbamoyl]pyrrolidin-1-yl]-1-oxohexan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]carbamoyl]pyrrolidin-1-yl]-1-oxopropan-2-yl]amino]-1-oxohexan-2-yl]amino]-3-(4-hydroxyphenyl)-1-oxopropan-2-yl]amino]-4-methylsulfanyl-1-oxobutan-2-yl]amino]-4-[[(2S)-2-amino-4-methylpentanoyl]amino]-5-oxopentanoic acid
Identified Uses	Research laboratory chemical for in vitro scientific research and development use only.
Restriction on Use	Not for human or veterinary use. Not for food, drug, cosmetic, household, agricultural, clinical, therapeutic, or diagnostic applications.

Manufacturer / Supplier

Company	Minuteman Peptides, LLC
Address	53 Knox Trail, Suite 200, Acton, MA 01720, US
Phone	978-596-1533
Website	https://minutemanpeptides.com/
Emergency Contact	CHEMTREC
Emergency Phone	

	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/ week

Section 2 — Hazard Identification

Classification of the substance

Not classified based on currently available data; however, data is limited and hazards cannot be fully characterized. The absence of classification should not be interpreted as a determination of the absence of hazard.

Classification has been conducted in accordance with 29 CFR 1910.1200 (OSHA HazCom 2012) and GHS Rev.8 using all available data and scientifically valid weight-of-evidence approaches (GHS Rev.8 Chapter 1.3.2.4), including read-across from chemical class and structural considerations where substance-specific study data is not available.

Signal Word: None

GHS Pictograms:

None required based on classification.

Hazard Statements

None. This substance is not classified for any GHS hazard class based on available data.

Precautionary Statements

- P261: Avoid breathing dust, fume, gas, mist, vapors, or spray.
- P264: Wash hands and exposed skin thoroughly after handling.
- P280: Wear protective gloves, protective clothing, and eye/face protection.
- P501: Dispose of contents and container in accordance with local, regional, national, and international regulations.

Precautionary statements are provided as best practice for handling substances with limited toxicological data, and are not a declaration of GHS classification.

Hazards Not Otherwise Classified (HNOC)

None known based on available data and weight-of-evidence assessment. The toxicological properties of this substance have not been fully characterized; handle as a potentially bioactive substance of unknown toxicity.

Section 3 — Composition / Information on Ingredients

Single-substance product. Chemical identity:

Ingredient	CAS Number	Mol. Formula	Mol. Weight	Concentration
IGF-1 (57-70)	123618-03-1	C71H119N17O19S	1546.9 g/mol	>98% (research grade)

Impurities

No hazardous impurities known to be present above the GHS classification thresholds specified in 29 CFR 1910.1200 Appendix A. Residual synthesis reagents, solvents, and counter-ions may be present at levels consistent with research-grade (>98% purity) material. Balance: non-hazardous impurities. Refer to the accompanying Certificate of Analysis (CoA) for the lot-specific impurity profile.

Section 4 — First Aid Measures

Eye Contact

Rinse cautiously with water for several minutes. If irritation persists, seek medical advice.

Skin Contact

Wash with soap and water. Remove contaminated clothing and wash before reuse. If irritation persists, seek medical advice.

Inhalation

Move affected person to fresh air. If symptoms develop, seek medical advice.

Ingestion

Rinse mouth thoroughly with water. If large amounts are swallowed or if symptoms develop, seek medical advice. Do not induce vomiting unless directed by medical personnel.

Note to Physician

Treat symptomatically. No specific antidote known.

Section 5 — Fire Fighting Measures

Flash Point: *Not determined*

Suitable Extinguishing Media

Use extinguishing media appropriate to the surrounding fire conditions. Carbon dioxide (CO2), dry chemical powder, foam, or water spray.

Special Hazards

May produce toxic gases upon combustion. Carbon monoxide and other combustion products may be generated.

Protective Equipment for Firefighters

Wear self-contained breathing apparatus (SCBA) and full protective gear. Do not enter fire area without proper protective equipment.

Section 6 — Accidental Release Measures

Personal Precautions

Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Use personal protective equipment as described in Section 8.

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Do not allow the product to enter drains, sewers, or waterways.

Containment and Cleanup

Sweep up and shovel. Keep in suitable, closed containers for disposal. Avoid raising dust. Clean contaminated surface thoroughly. Dispose of waste in accordance with local regulations (see Section 13).

Section 7 — Handling and Storage

Handling Precautions

Handle only under conditions appropriate for a research-use bioactive peptide of unknown toxicological profile. In accordance with 29 CFR 1910.1200 and general OSHA laboratory safety guidance (29 CFR 1910.1450), use in a well-ventilated area, preferably within a chemical fume hood or biosafety cabinet when weighing or reconstituting the lyophilized solid, to minimize generation and inhalation of airborne particulates. Wear appropriate personal protective equipment (chemical-resistant gloves, safety eyewear, and a laboratory coat) as specified in Section 8. Avoid formation

of dusts and aerosols; do not breathe dust, mist, or vapor. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product. Wash hands and exposed skin thoroughly after handling. Employ good industrial hygiene and housekeeping practices. Keep containers tightly closed when not in use and return promptly to storage. Use aseptic technique during reconstitution to preserve peptide integrity, and avoid repeated freeze-thaw cycles of solutions by preparing single-use aliquots. Ground and bond containers when transferring to prevent electrostatic discharge with fine powders. Ensure that emergency eyewash and safety shower stations are readily accessible in the work area.

Storage Conditions

Store the lyophilized peptide tightly sealed in the original container, protected from light, moisture, and air. Keep desiccated at -20 degC for routine storage, or at -80 degC for long-term storage, consistent with general handling and storage guidance for peptides and proteins (see Sigma-Aldrich technical guidance on peptide handling/storage; ProSpec IGF-1 storage recommendations). Allow containers to equilibrate to room temperature before opening to prevent condensation of atmospheric moisture on the solid. Once reconstituted, store aqueous solutions refrigerated (2-8 degC) for short-term use and frozen in single-use aliquots for longer periods; avoid repeated freeze-thaw cycles. Exposure to pH > 8 should be avoided to minimize peptide degradation. Store away from incompatible materials (see below), sources of ignition, heat, and direct sunlight. Keep out of reach of unauthorized personnel, children, and animals. No specific regulatory storage class (e.g., OSHA flammable-liquid storage per 29 CFR 1910.106) is assigned to this substance based on available information; store in accordance with institutional chemical hygiene plan requirements for research chemicals of unknown hazard.

Incompatibilities

Keep away from strong oxidizing agents, strong acids, and strong bases, which can hydrolyze or oxidatively degrade peptide bonds and susceptible side chains (e.g., methionine, cysteine, tryptophan). Avoid prolonged exposure to elevated temperatures, high humidity, direct sunlight, and ultraviolet light, all of which promote degradation. Avoid contact with proteolytic enzymes and microbial contamination. No hazardous polymerization is expected. Hazardous decomposition products may include carbon oxides (CO, CO2), nitrogen oxides (NOx), and sulfur oxides (SOx) upon thermal decomposition, consistent with the elemental composition (C71H119N17O19S).

Section 8 — Exposure Controls / Personal Protection

Exposure Limits

No regulatory occupational exposure limits (OEL) have been established by OSHA, ACGIH, NIOSH, or equivalent bodies. No biological exposure indices (BEIs) have been established. Control exposure to the lowest level reasonably achievable (ALARA) using the engineering controls and PPE specified below. Handle as a potentially bioactive substance of unknown toxicity.

Engineering Controls

Use in a well-ventilated area. Handle in a chemical fume hood, ventilated balance enclosure, or Class I/II biological safety cabinet when weighing or manipulating dry powder to prevent generation of airborne dusts or aerosols. Where aerosol or dust generation is possible, use local exhaust ventilation (LEV) with HEPA filtration. Provide readily accessible eyewash stations and safety showers in the work area, in accordance with ANSI Z358.1. Implement good industrial hygiene practices: no eating, drinking, smoking, or storing food in work areas; wash hands and exposed skin thoroughly after handling and before breaks. Segregate contaminated PPE and decontaminate work surfaces after use.

Personal Protective Equipment

Respiratory Protection: No regulatory exposure limits are established. If engineering controls (fume hood, ventilated enclosure) are adequate and airborne exposure is prevented, respiratory protection is not typically required. When dust or aerosol generation cannot be controlled (e.g., weighing bulk powder outside a containment hood), use a NIOSH-approved (42 CFR Part 84) air-purifying respirator equipped with an N100/P100 particulate filter, or a powered

air-purifying respirator (PAPR) with HEPA cartridges for higher-exposure operations. Respirator selection and use must comply with OSHA 29 CFR 1910.134, including fit testing, medical evaluation, and a written respiratory protection program.

Hand Protection: Wear chemically resistant, powder-free disposable gloves (e.g., nitrile, minimum 4-mil / 0.1 mm thickness) conforming to EN ISO 374 / ASTM D6319. Double-gloving is recommended when handling dry powder or concentrated stock solutions. Inspect gloves before use and change immediately if contamination, degradation, or puncture is suspected, and after each task. Remove gloves without touching outer surfaces and wash hands thoroughly with soap and water after removal. No permeation data specific to IGF-1 (57-70) have been published; select gloves based on the solvent/vehicle used (e.g., water, DMSO, buffer).

Eye / Face Protection: Wear tightly fitting safety glasses with side shields, or chemical splash goggles, conforming to ANSI/ISEA Z87.1 (US) or EN 166 (EU), whenever handling the solid or solutions. A full-face shield worn over goggles is recommended when there is a risk of splash, spray, or when handling larger quantities. Contact lenses should not be worn without additional eye protection.

Skin Protection: Wear a laboratory coat (buttoned) or chemically resistant lab apron over long sleeves and full-length trousers, with closed-toe chemically resistant footwear. Use disposable sleeve covers or a chemically resistant coverall (e.g., Type 5/6 per EN 13034) when handling bulk quantities or when splash potential exists. Remove and launder contaminated clothing separately before reuse; discard heavily contaminated disposable garments as chemical waste. Do not wear contaminated clothing outside the work area.

Section 9 — Physical and Chemical Properties

Physical State	Solid (research-grade lyophilised powder or crystalline solid)
Appearance	White to off-white lyophilized powder
Odor	Odorless
Odor Threshold	Not available.
Boiling Point	*Not determined*
Melting Point	*Not determined*
Flash Point	*Not determined*
Auto-ignition Temperature	No data available.
Decomposition Temperature	No experimental data available.
Vapor Pressure	*Not determined*
Vapor Density	*Not determined*
Specific Gravity	*Not determined*
Partition Coefficient (log Kow)	No experimental data available.
Solubility	Soluble in water
Stability in Solution	Subject to hydrolytic and oxidative degradation typical of the chemical class; store reconstituted solutions refrigerated or frozen, protect from light, and use within the stability window indicated on the Certificate of Analysis.
pH	*Not determined*
Molecular Weight	1546.9 g/mol
Molecular Formula	C71H119N17O19S

Section 10 — Stability and Reactivity

Chemical Stability: Stable under normal conditions of use, storage, and transport.

Conditions to Avoid: Excessive heat, open flames, sparks, incompatible materials.

Incompatible Materials: Keep away from strong oxidizing agents, strong acids, and strong bases, which can hydrolyze or oxidatively degrade peptide bonds and susceptible side chains (e.g., methionine, cysteine, tryptophan). Avoid prolonged exposure to elevated temperatures, high humidity, direct sunlight, and ultraviolet light, all of which promote degradation. Avoid contact with proteolytic enzymes and microbial contamination. No hazardous polymerization is expected. Hazardous decomposition products may include carbon oxides (CO, CO2), nitrogen oxides (NOx), and sulfur oxides (SOx) upon thermal decomposition, consistent with the elemental composition (C71H119N17O19S).

Hazardous Decomposition Products: Upon combustion or decomposition may produce: carbon monoxide (CO), carbon dioxide (CO2), nitrogen oxides (NOx), sulfur oxides (SOx).

Hazardous Polymerization: Will not occur.

Section 11 — Toxicological Information

The toxicological properties of this substance have not been fully characterized. Where no authoritative study data was identified, endpoint classifications are based on a weight-of-evidence approach using read-across from the compound's chemical class and structural features, per GHS Rev.8 Chapter 1.3.2.4. "Not classified" entries below mean "not classified based on currently available data" — hazards cannot be excluded.

Acute Toxicity: Acute toxicity data specific to IGF-1 (57-70) (CAS 123618-03-1) in humans or animals via oral, dermal, or inhalation routes have not been located in authoritative regulatory databases (ECHA registration dossiers, NIOSH, EPA CompTox Chemicals Dashboard entry DTXSID20154054, or PubChem CID 5748425). No LD50 or LC50 values from peer-reviewed literature or regulatory bodies are available for this specific fragment. The toxicological properties of this substance are not fully characterized. Not classified for acute toxicity based on currently available data; hazards cannot be excluded (GHS Rev.8 S1.3.2.4). Handle as a substance of unknown acute toxicity and minimize all routes of exposure.

Skin Corrosion / Irritation: No experimental skin irritation or corrosion studies for IGF-1 (57-70) have been identified in ECHA, NIOSH, EPA CompTox (DTXSID20154054), or PubChem (CID 5748425). The toxicological properties of this substance are not fully characterized. Not classified for skin corrosion/irritation based on currently available data; hazards cannot be excluded (GHS Rev.8 S1.3.2.4). Avoid skin contact; the solid may cause mechanical irritation, and aqueous solutions of proteinaceous material may provoke irritation in sensitive individuals.

Serious Eye Damage / Irritation: No experimental eye irritation or serious eye damage studies for IGF-1 (57-70) have been located in authoritative databases (ECHA, NIOSH, EPA CompTox DTXSID20154054, PubChem CID 5748425). The toxicological properties of this substance are not fully characterized. Not classified for serious eye damage/eye irritation based on currently available data; hazards cannot be excluded (GHS Rev.8 S1.3.2.4). Particulates and solutions may cause mechanical or transient irritation on ocular contact; use appropriate eye protection.

Skin / Respiratory Sensitization: No respiratory or skin sensitization studies specific to IGF-1 (57-70) are reported in ECHA, NIOSH, EPA CompTox, or PubChem entries for this substance. As a proteinaceous/polypeptide-type material of biological origin, potential for immunogenic response upon repeated exposure by inhalation or dermal contact cannot be ruled out on a weight-of-evidence basis (GHS Rev.8 S1.3.2.4). Not classified for skin or respiratory sensitization based on currently available data; hazards cannot be excluded. Avoid inhalation of dusts or aerosols and prevent repeated skin contact.

Germ Cell Mutagenicity / Genotoxicity: Not classified based on currently available data; hazards cannot be excluded. Weight-of-evidence assessment applied using read-across from chemical class and structural considerations (GHS Rev.8 Chapter 1.3.2.4); no authoritative substance-specific study data identified.

Carcinogenicity: IGF-1 (57-70) (CAS 123618-03-1) is not listed by IARC, the U.S. National Toxicology Program (NTP 15th Report on Carcinogens), OSHA (29 CFR 1910.1003), or the ACGIH TLV carcinogen notations. No carcinogenicity bioassays specific to this fragment have been identified in ECHA or EPA CompTox (DTXSID20154054).

The toxicological properties of this substance are not fully characterized. Not classified for carcinogenicity based on currently available data; hazards cannot be excluded (GHS Rev.8 S1.3.2.4).

Reproductive Toxicity: No reproductive toxicity, developmental toxicity, or fertility studies specific to IGF-1 (57-70) (CAS 123618-03-1) have been located in ECHA registration data, NTP, EPA CompTox (DTXSID20154054), or peer-reviewed literature indexed in PubChem (CID 5748425). The toxicological properties of this substance are not fully characterized. Not classified for reproductive toxicity based on currently available data; hazards cannot be excluded (GHS Rev.8 S1.3.2.4). Women of childbearing potential and pregnant or nursing workers should avoid exposure as a precaution.

Specific Target Organ Toxicity (STOT): No specific target organ toxicity data following single exposure (STOT-SE) or repeated exposure (STOT-RE) have been identified for IGF-1 (57-70) in authoritative sources (ECHA, NIOSH, EPA CompTox DTXSID20154054, PubChem CID 5748425). No occupational exposure limits (OSHA PEL, NIOSH REL, ACGIH TLV) have been established for this substance. The toxicological properties of this substance are not fully characterized. Not classified for STOT-SE or STOT-RE based on currently available data; hazards cannot be excluded (GHS Rev.8 S1.3.2.4). Minimize exposure by all routes and control airborne concentrations to the lowest feasible level.

Aspiration Hazard: Not classified based on currently available data; hazards cannot be excluded. Weight-of-evidence assessment applied using read-across from chemical class and structural considerations (GHS Rev.8 Chapter 1.3.2.4); no authoritative substance-specific study data identified.

Derived No-Effect Level (DNEL): No data available — no substance-specific DNEL has been derived.

Predicted No-Effect Concentration (PNEC): No data available — no substance-specific PNEC has been derived.

Section 12 — Ecological Information

No authoritative substance-specific ecotoxicity study data was identified. In the absence of experimental data, adverse environmental effects cannot be fully excluded.

Ecotoxicity: No substance-specific experimental aquatic or terrestrial toxicity data (e.g., fish LC50, Daphnia EC50, algal ErC50) have been identified for IGF-1 (57-70) (CAS 123618-03-1) in authoritative databases (U.S. EPA ECOTOX Knowledgebase, EPA CompTox Chemicals Dashboard entry DTXSID20154054, ECHA registration dossiers, or peer-reviewed literature). Not classified as hazardous to the aquatic environment (acute or chronic) under GHS/CLP based on weight-of-evidence assessment in the absence of authoritative experimental data. The substance is a synthetic 14-residue peptide fragment of insulin-like growth factor I; environmental release from laboratory-scale research use is expected to be limited. Prevent release to surface water, drains, soil, and groundwater.

Persistence and Degradability: No substance-specific experimental biodegradation data (e.g., OECD 301 ready biodegradability tests) or measured environmental half-lives have been identified in authoritative sources (EPA CompTox DTXSID20154054, ECHA, PubChem CID/peer-reviewed literature) for CAS 123618-03-1. As a peptide composed exclusively of proteinogenic L-amino acid residues linked by amide bonds, susceptibility to hydrolytic and enzymatic (proteolytic/peptidase) cleavage in environmental compartments is expected, but this has not been experimentally verified for this specific sequence. Definitive persistence classification cannot be made without substance-specific data.

Bioaccumulative Potential: No experimentally determined octanol/water partition coefficient (log Kow), bioconcentration factor (BCF), or bioaccumulation factor (BAF) for IGF-1 (57-70) (CAS 123618-03-1) has been identified in authoritative sources (EPA CompTox DTXSID20154054, ECHA, PubChem, peer-reviewed literature). Given the high molecular weight (1546.9 g/mol), high polarity, multiple ionizable groups, and expected very low log Kow characteristic of oligopeptides, significant bioaccumulation in aquatic organisms is not anticipated; however, this conclusion is based on physicochemical read-across rather than measured data for this substance.

Mobility in Soil: No substance-specific experimental data identified.

Other Adverse Effects: No other adverse environmental effects identified. The substance is not included on the Montreal Protocol list of ozone-depleting substances.

Section 13 — Disposal Considerations

Dispose of contents and container in accordance with all local, state, and federal regulations. Do not dispose of this material into sewers or waterways. Contact a licensed waste disposal company for disposal guidance.

US: Dispose in accordance with 40 CFR Parts 261-270 (RCRA). **EU:** Dispose according to Directive 2008/98/EC (Waste Framework Directive).

Section 14 — Transport Information

DOT (US)	Not regulated as dangerous goods under DOT (49 CFR) based on current classification.
IATA	Not regulated as dangerous goods under IATA Dangerous Goods Regulations based on current classification.
IMDG	Not regulated as dangerous goods or as a marine pollutant under the IMDG Code based on current classification.
UN Number	Not applicable.

Transport classifications above are based on the substance's intrinsic hazard classification; the shipper must independently verify the classification, packaging, labelling, and documentation requirements for their specific shipment configuration, quantity, and carrier (including airline policies) prior to dispatch.

Section 15 — Regulatory Information

United States

TSCA (Toxic Substances Control Act): May be eligible for exemption from TSCA inventory listing requirements under the R&D provisions of 40 CFR 720.36, depending on actual conditions of use. This substance is supplied solely for use in scientific research and development in small quantities; it is not intended for, and shall not be used for, any commercial manufacturing, processing, or distribution in commerce. The importer/end user is responsible for confirming that the R&D exemption criteria are met for their specific use. **OSHA HazCom 2012:** This SDS was prepared in accordance with 29 CFR 1910.1200 (HazCom 2012), aligned with the Globally Harmonized System (GHS) Rev. 8. **CERCLA / SARA Title III:** Not listed as a CERCLA Hazardous Substance (40 CFR 302.4); not subject to SARA 313 reporting based on available classification data. Users must independently verify applicability for their facility.

European Union

REACH (EC 1907/2006): Supplied solely for Scientific Research and Development (SR&D) use in quantities below 1 tonne per year per legal entity. Where applicable, this use may be exempt from REACH registration obligations under the scientific research and development provisions of REACH Article 3(23) and the conditions of Article 26(3); importers/users should independently verify the applicable exemption pathway for their specific use. If the substance is used as part of a formally notified Product and Process Oriented Research and Development (PPORD) programme, the separate notification procedure under REACH Article 9 (with a 5-year exemption renewable once) may apply instead. **CLP (EC 1272/2008):** Not classified under CLP based on available data; no harmonized classification entry identified in Annex VI of CLP or the ECHA Classification and Labelling (C&L) Inventory.

Canada

WHMIS 2015 / HPR: Not classified as a hazardous product under the Hazardous Products Act and Hazardous Products Regulations (SOR/2015-17) based on available data and weight-of-evidence assessment. Supplied for laboratory research use only. **DSL/NDSL:** Research-use exemption applies; substance is not intended for commercial import or manufacture in Canada.

Note: The regulatory statements above reflect the intended use of this substance for scientific research and development only and do not constitute a legal determination of regulatory status. If the substance is used outside the R&D exemption scope, users are solely responsible for independently verifying applicable regulatory obligations (TSCA, REACH, WHMIS, state, and local) for their specific use and jurisdiction prior to any such use.

Section 16 — Other Information

Document ID	321a42aa-56a6-4966-acc1-8d09e5466d11
Revision Date	2026-07-18
Version	1.0
Prepared By	Prepared in accordance with GHS Rev.8 and OSHA HazCom 2012 (29 CFR 1910.1200). Independent review by a qualified chemical safety professional is recommended prior to use.

Revision History

Revision date: 2026-07-18
Version: 1.0
Change description: Initial issue. Document prepared in 16-section GHS Rev.8 / OSHA HazCom 2012 format.

Sources Used

- PubChem (U.S. National Library of Medicine / NCBI) — https://pubchem.ncbi.nlm.nih.gov
- Peer-reviewed chemistry and toxicology literature (class-based read-across and weight-of-evidence assessment per GHS Rev.8 Chapter 1.3.2.4)
- OSHA HazCom 2012 / 29 CFR 1910.1200 Appendix A–C; GHS Rev.8; OECD Test Guidelines

Key to Abbreviations

CAS = Chemical Abstracts Service; GHS = Globally Harmonized System of Classification and Labelling of Chemicals; OSHA = U.S. Occupational Safety and Health Administration; HazCom = Hazard Communication Standard; REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals; CLP = Classification, Labelling and Packaging Regulation; TSCA = Toxic Substances Control Act; WHMIS = Workplace Hazardous Materials Information System; OEL = Occupational Exposure Limit; PEL = Permissible Exposure Limit; TLV = Threshold Limit Value; REL = Recommended Exposure Limit; STOT = Specific Target Organ Toxicity; LD50 = Median Lethal Dose; LC50 = Median Lethal Concentration; PPE = Personal Protective Equipment; SCBA = Self-Contained Breathing Apparatus; R&D = Research and Development.

Disclaimer

DISCLAIMER: The information in this Safety Data Sheet is compiled from the authoritative sources cited above, supplemented by weight-of-evidence assessment based on the compound's chemical class and published literature. It is believed to be accurate as of the revision date but is provided "as is" without warranty of any kind, express or implied, including fitness for a particular purpose. The preparer of this document has not independently tested the substance described herein. Users bear sole responsibility for verifying all information, ensuring safe handling, and compliance with all applicable federal, state, provincial, and local regulations. This SDS is not a substitute for independent chemical safety assessment by a qualified professional. This product is intended for scientific research and development use only and is not for human consumption, drug, food, cosmetic, agricultural, or household use.